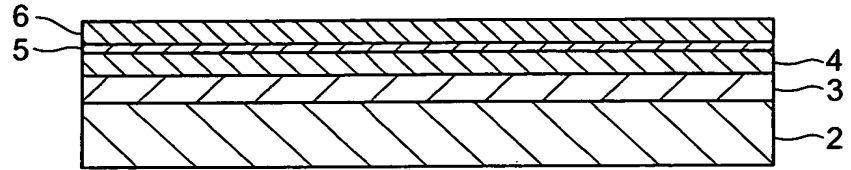
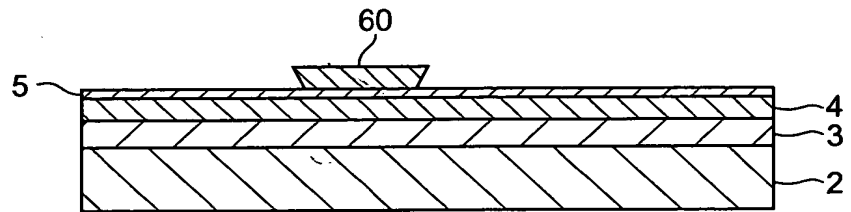


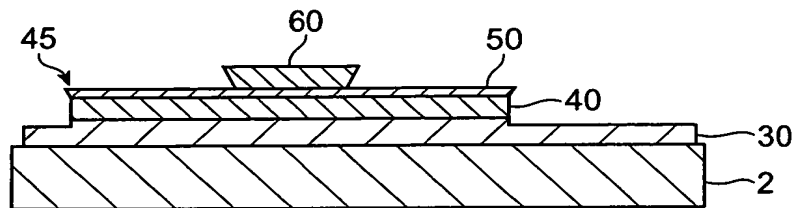
**Fig.1A**



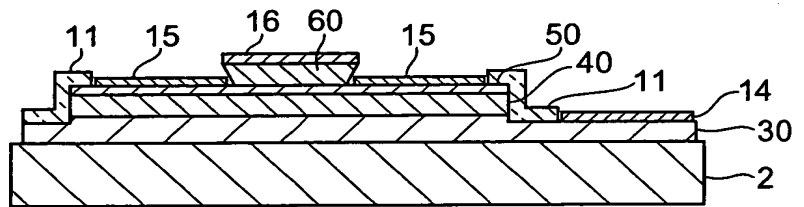
**Fig.1B**



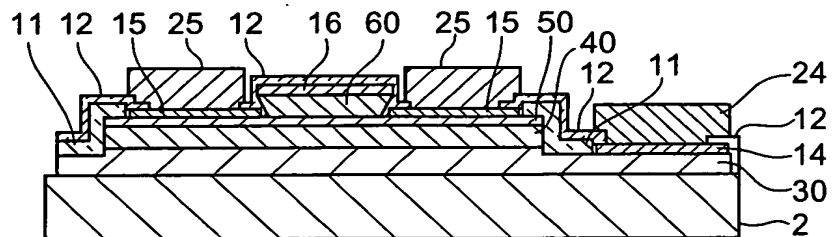
**Fig.1C**



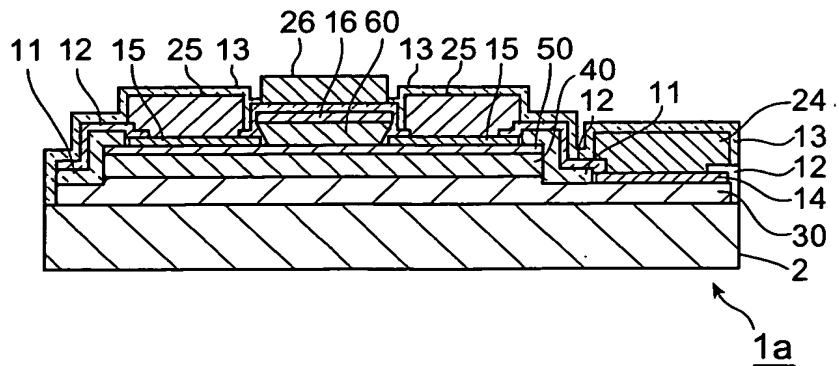
**Fig.1D**



**Fig.1E**



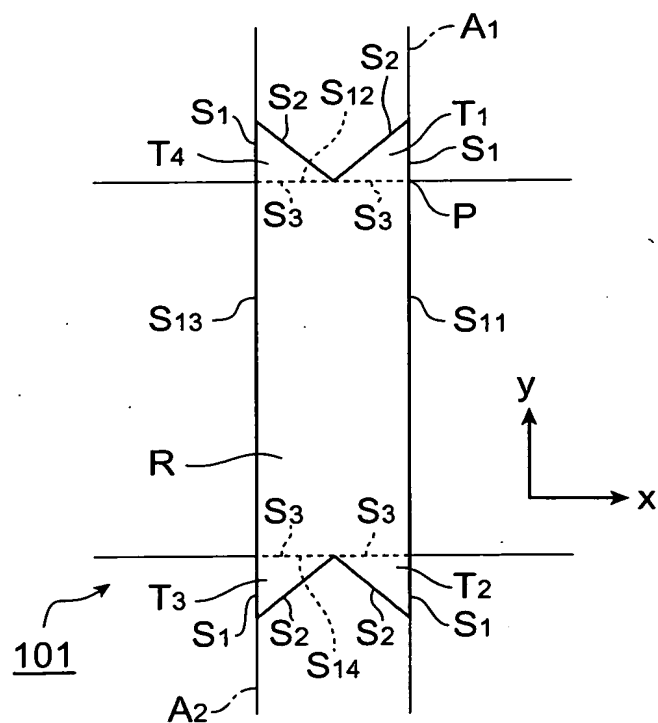
**Fig.1F**



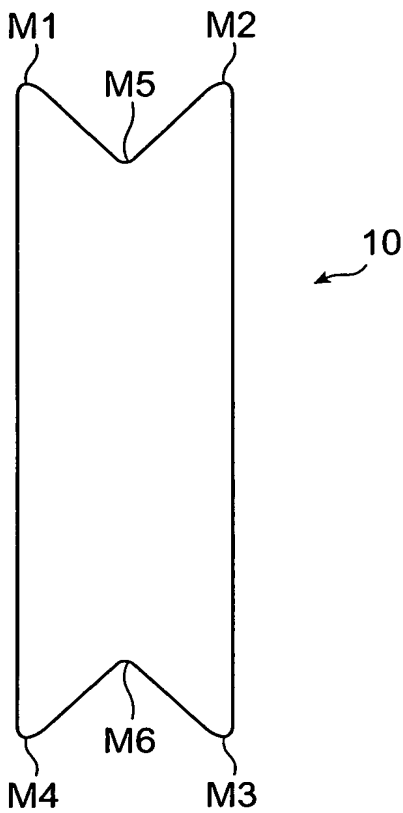
10026950.122701

**Fig.2**

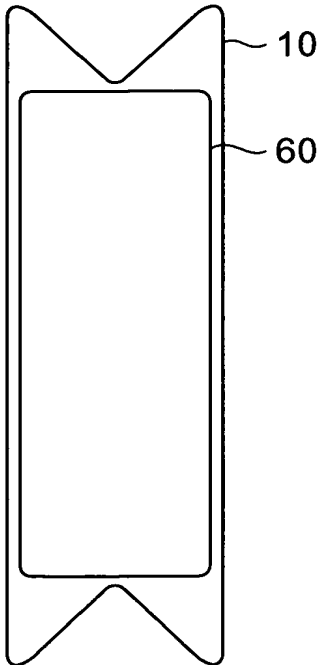
FILM NAME	MATERIALS	CONDUCTIVE TYPE	DOPANT	CARRIER CONCENTRATION (cm <sup>-3</sup> )	FILM THICKNESS (nm)
EMITTER FILM 6	InP	n	Si	$4\sim 20 \times 10^{18}$	250
BASE FILM 5	InGaAs	p <sup>+</sup>	Zn	$4 \times 10^{19}$	50
COLLECTOR FILM 4	InGaAs	n	Si	$5 \times 10^{16}$	500
SUBCOLLECTOR FILM 3	InGaAs	n <sup>+</sup>	Si	$1 \times 10^{19}$	300

**Fig.3**

**Fig.4**

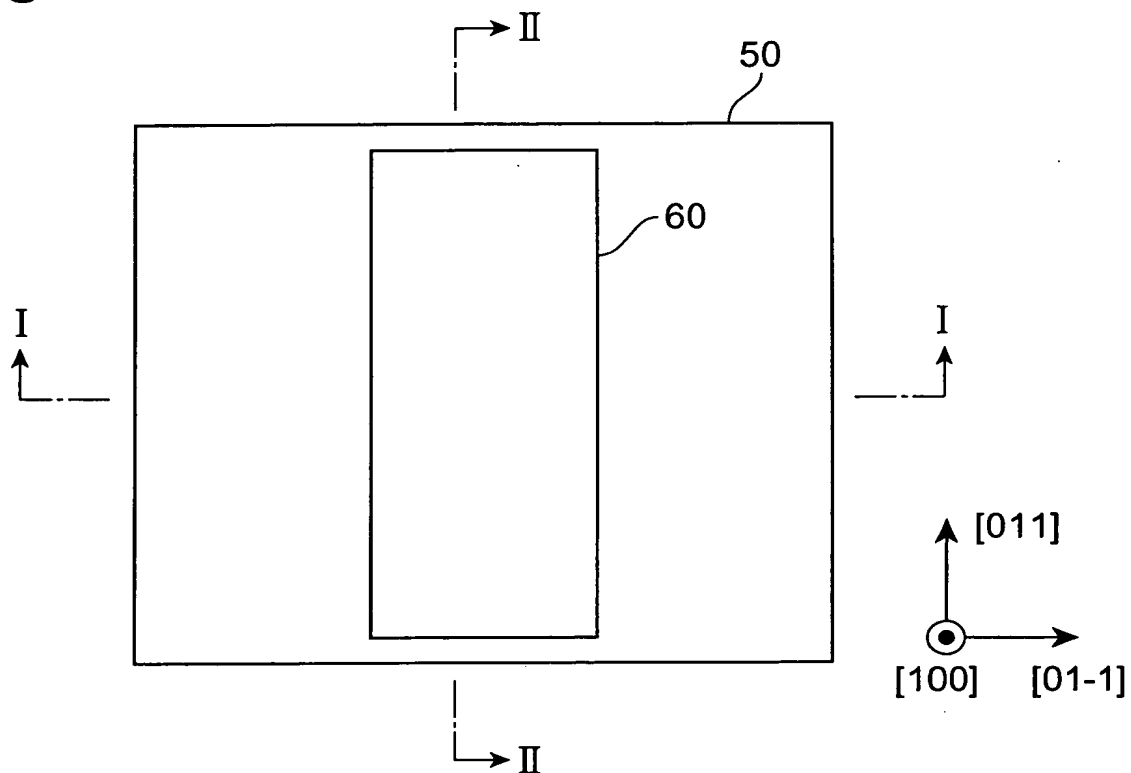


**Fig.5**

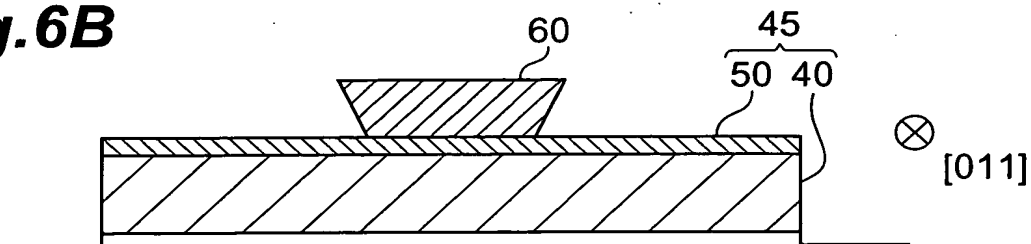


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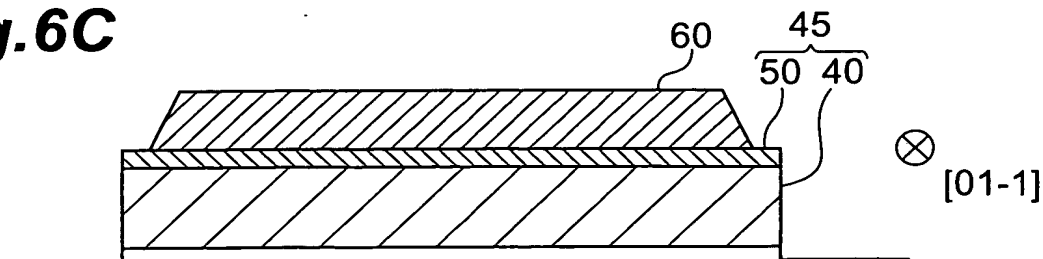
**Fig.6A**



**Fig.6B**

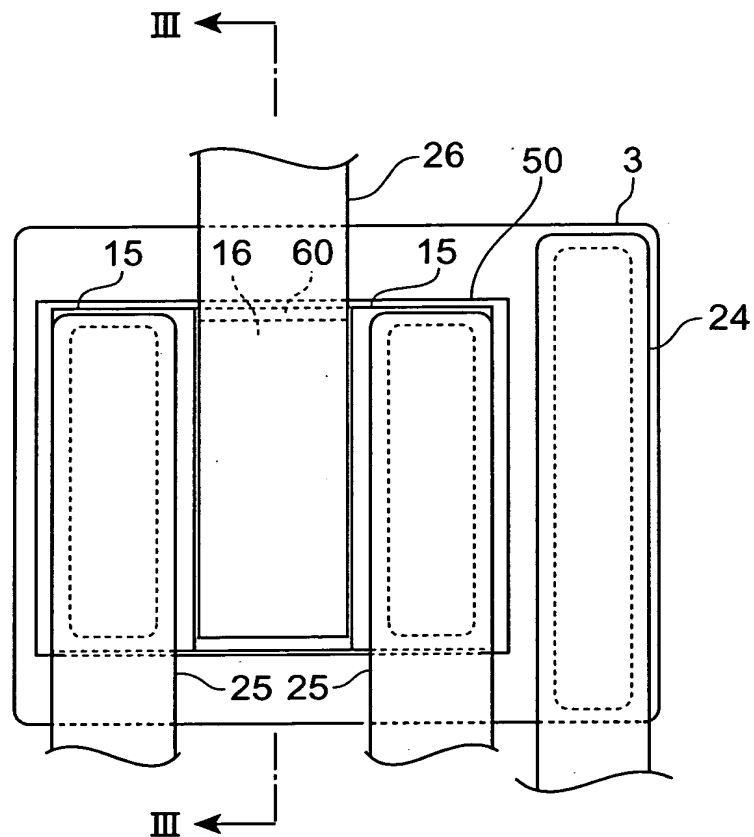


**Fig.6C**

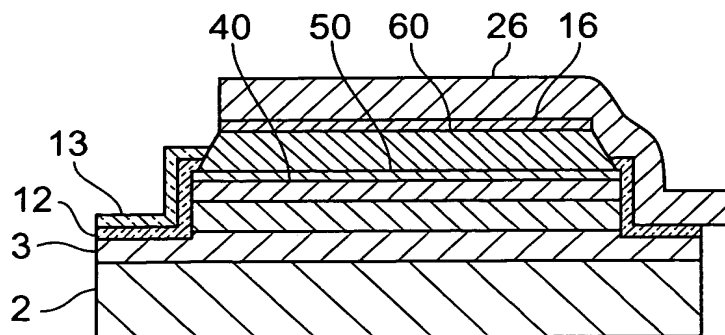


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**Fig.7A**



**Fig.7B**



10026950-122701

Fig.8A

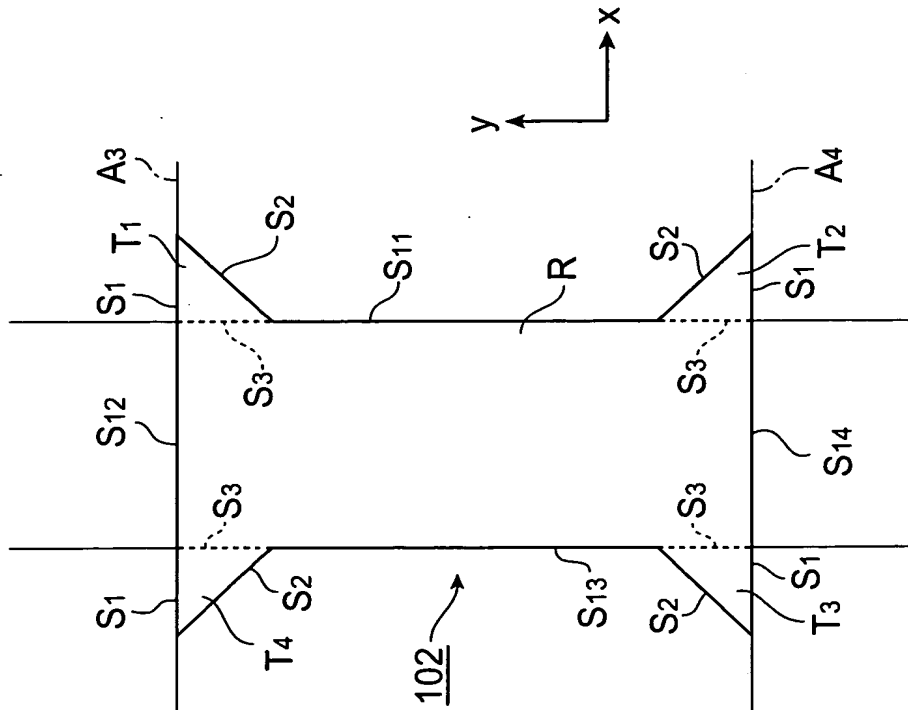
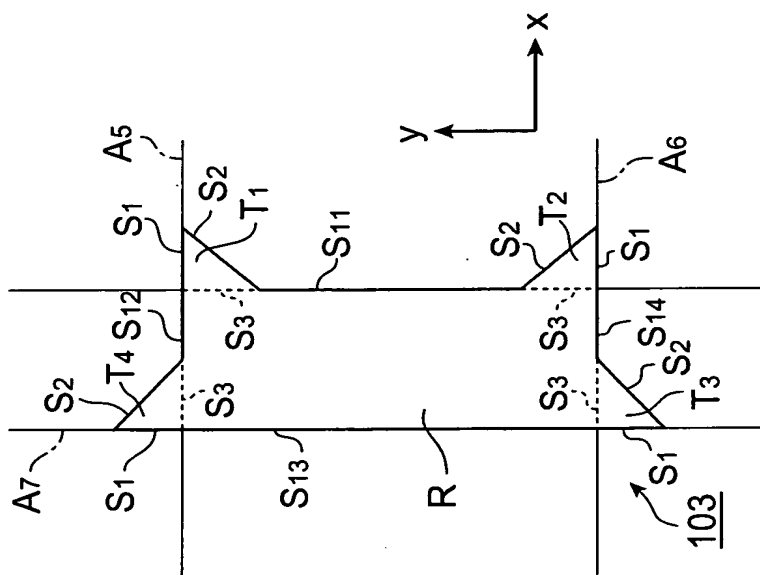
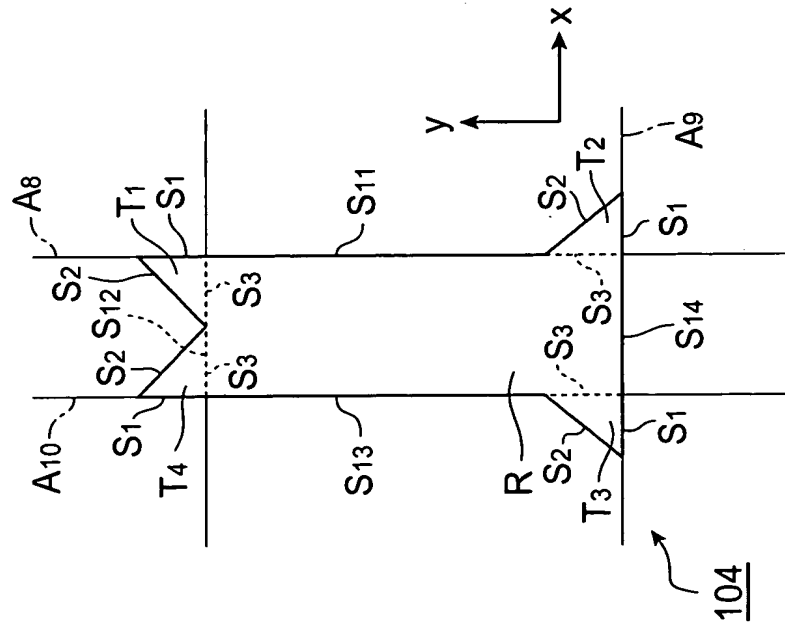


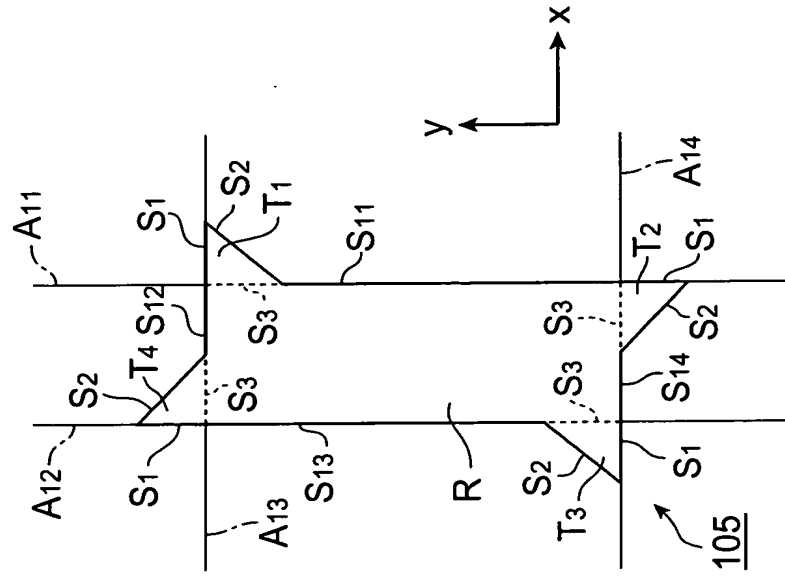
Fig.8B



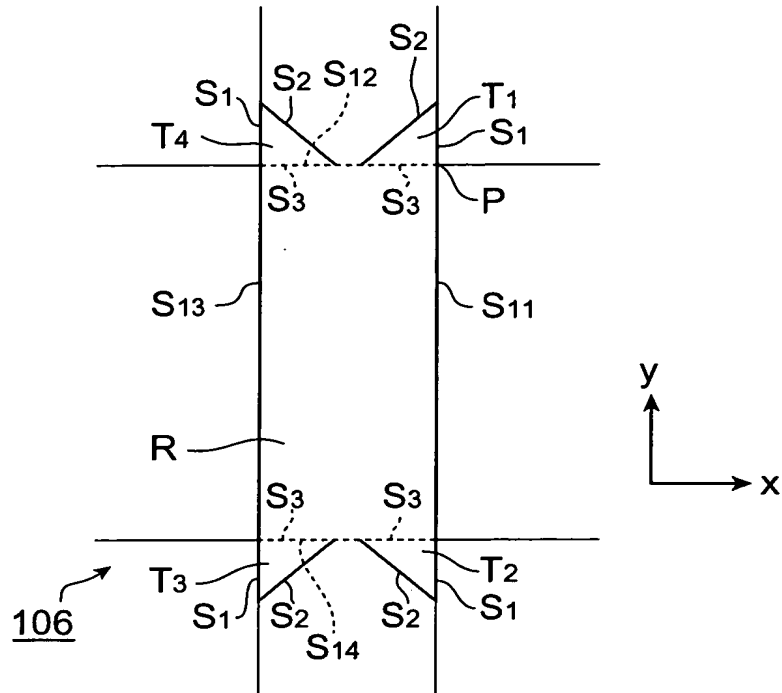
**Fig.9A**



**Fig.9B**



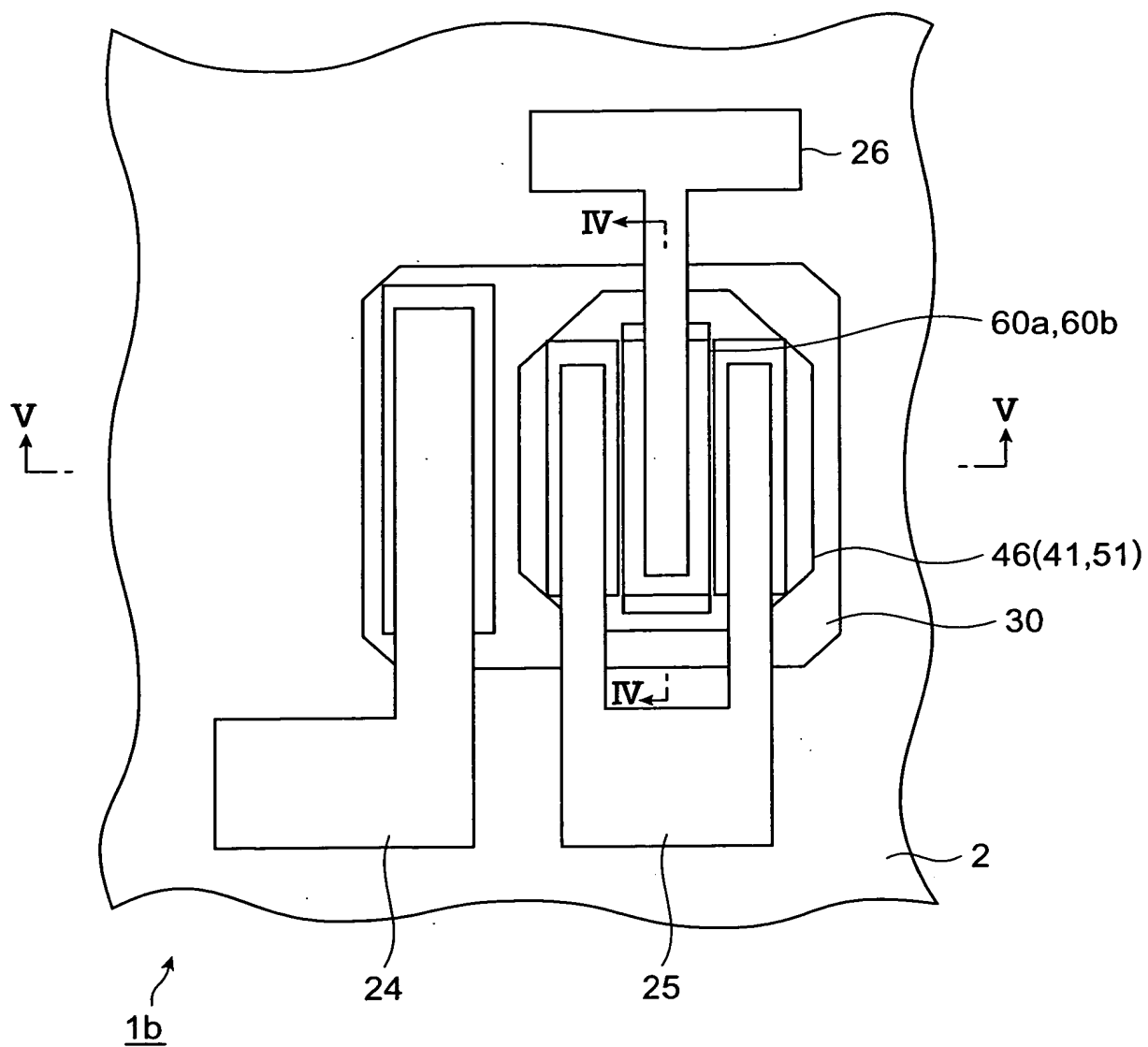
**Fig.10**



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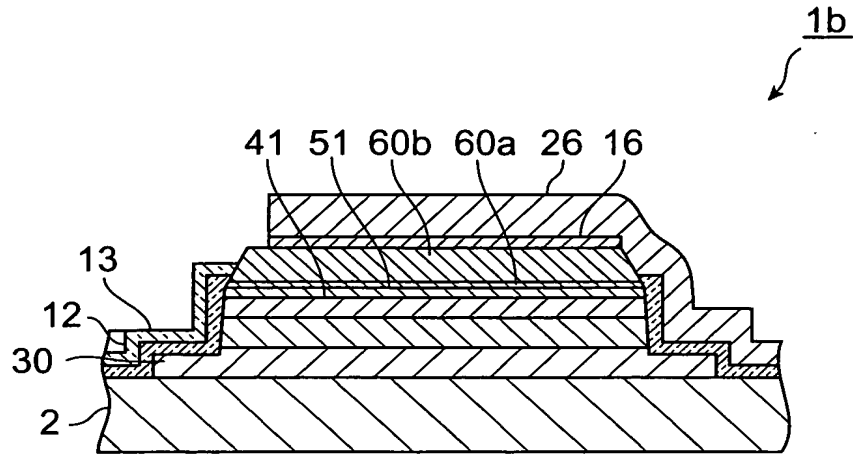


**Fig.11**

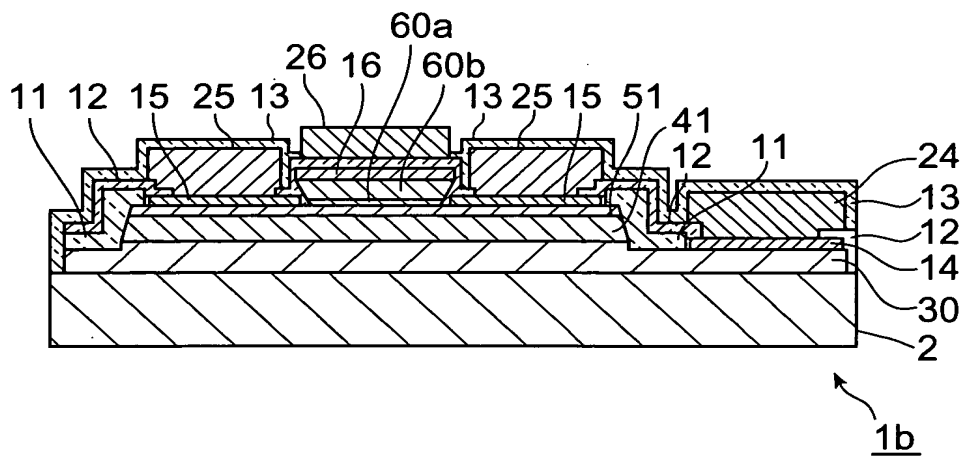


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**Fig.12A**

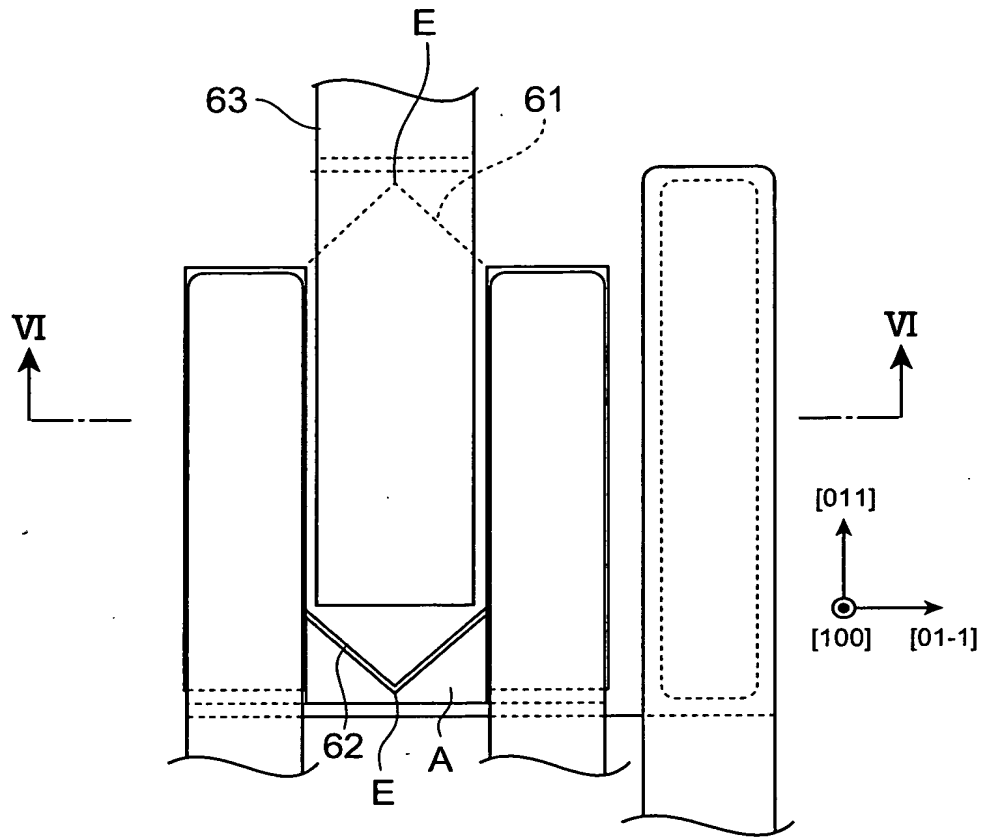


**Fig.12B**



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**Fig.13A**



**Fig.13B**

